

## DECLARATION

I, CAL ORR, do hereby declare that:

1. I am a Project Engineer for FotoKem, an American company specialized in film & video in the US film industry since 1963, currently number 3 in the size of the market shared today. FotoKem has different subsidiaries in the world.

2. I have worked in the film industry in the United States since 1976 and started with FotoKem in 1980.

3. I am informed that claim 11 in U.S. Patent Application 10/552,866, the sole independent claim in the application, reads as follows:

A movie theater system for the projection of cinematographic works or digital works with sound with at least one sound channel, comprising:

a theater having a back wall;

a screen spaced from the back wall;

a plate of sound-absorptive material disposed between the wall and the screen;

at least one sound channel comprising at least one woofer and at least one medium/treble speaker;

the screen being a non-perforated screen;

the at least one medium/treble speaker comprising a flat sound transducer placed against the screen to a rear thereof in relation to a direction of projection; and

an extreme treble speaker being disposed on a periphery of the screen.

For the reasons discussed below, Claim 11 describes a novel and unobvious design for a sound system for a movie theater, hereinafter referred to as the "VINCENT sound invention", which solves a long felt need in the movie or cinema industry.

4. I understand that claims 12 - 22 in U.S. Patent Application No. 10/552,866 describe further features of the "VINCENT sound invention."

5. Since its beginning, the film industry has been struggling to improve the immersive experience for the film viewer. One of the breakthroughs, in the 1960s, was to make the sound associated with a motion picture pass through the screen and move the source of the sound with the image. Since the 1960s, this technology has been used in theaters throughout the world and the motion picture industry has developed movies which fully comply with this technology. But despite this breakthrough, the industry continues to struggle with the manner in which movie viewers encounter the sound associated with such movies.

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7. The principal issue facing the movie industry all these years has to do with the perforations in the screen, which perforations have prevented improving the sound and the image experience simultaneously. During the last 40 years, there have been many improvements in projector capabilities and image quality. A range of new technologies have brought a high quality image through improved projector quality; however, these technologies give one a really shrunk version of the high range quality after reflection of the images because of the perforations in the screen. The main shrinking effects are as follows:

(a) the more you leave the center of the screen the more the ray is oblique to the screen and the more the image loses its realism;

(b) 3 to 7% of the surface being perforated leads to a waste of contrast range especially in the white level and black level;

(c) the quality of colors undergoes discrepancies because of the influence of the black holes of the screen, especially at the edge of the image where the ray is positioned obliquely to the screen;

(d) textures displayed are variable from one screen to another due to the texture parasite created by the holes; and

(e) Moire effects are inducted by the holes of the image.

Currently, the limit for providing the best image experience to the moviegoer remains the last stage of the image transmission: the image output after reflection does not reflect all the fine tuning and improvements which have been made prior to the VINCENT sound invention.

8. I must stress that for the film industry, the perforation side effects have been an issue since the arrival of the perforated screen in the cinema theater room both on the image and the sound side. For the last 40 years, no one has arrived at the solution presented in the VINCENT patent application and embodied in the VINCENT sound invention. Mr. Vincent has solved a long felt need in the movie industry. For this reason alone, I do not find the VINCENT sound invention to have been obvious at all because others in the industry have struggled for decades to overcome the last stage of the transmission issue - the sound transmission stage.

9. Mr. Vincent has recognized that the only way to get rid of the perforations would be to use a non-perforated screen; however, if you use a non-perforated screen without the VINCENT sound invention, then one does not arrive at the proper sound experience and one misses the cinema specifications of the sound source being able to move from one side to the other side of the screen.

10. People in the movie industry have tried to solve the perforation issue by developing micro perforated screens and woven screens amongst other proposed solutions. Despite a lot of effort in the movie industry to try and fine tune these solutions, the final result has not been good. For instance, if the micro perforations reduced the image issue, they encumbered the sound experience. This alone tells me that the solution to the problem presented by Mr. Vincent was not an obvious solution. Since the beginning of perforated screens in the 1960s, no one of ordinary skill in the art has presented the same solution as Mr. Vincent.

11. At Fotokem, two years ago, we equipped one of our DI room, and we have personal experience with the VINCENT sound invention, which invention was effective from its beginning to resolve the image and sound issues which had been affecting the movie industry as a result of the use of perforated screens.

12. It should be noted that the problems faced by the cinema industry is quite different from the issues faced by conventional television and projection television manufacturers. The constraints faced by the cinema industry are far greater and more difficult to tackle than those faced by the TV industry principally because of the difference in screen size and room size. The key constraints are:

- (a) the displaying technology in a movie theater - projection vs. reflection;

- (b) the size of the screen in a movie theater required to provide the biggest image precision and realism;

- (c) the large volume of the theater room requiring a highly sophisticated sound solution;

- (d) the sound coming from the image (70% of the sound in average) in a movie theater;

- (e) the ability of the source of the sound to move from one side to another side of the movie screen; and

- (f) specific standards due to perforations (X curve).

13. The uniqueness of the VINCENT sound invention as set forth in claim 11 lies in the use of the non-perforated screen and the

intersection of the screen and the at least one medium/treble speaker (achieved by applying the transducer(s) to the screen). The system described in the VINCENT patent application is further unique in its use of satellites and a sound processor which dispatches the sound between the transducers and the satellites in a proper way. The VINCENT sound invention complies with movie industry standards and that enables the industry to resolve the aforementioned constraints in a better way. To my knowledge, nothing like the VINCENT sound invention has ever been proposed and/or invented.

14. The sound system developed by Mr. Vincent has solved a long term problem in the film industry. FotoKem is studying the use of VINCENT sound invention in its new Hollywood studio as a key breakthrough technology opportunity for facing the competition, because perforations are an issue on the sound side for providing the best experience, namely disturbances and drift effects in the B chain; high med and trebles interfered when passing through the screen (part of them passing through the perforations combined with the other part passing through the surface of the screen); phase cancellations (comb filtering) and severe coloration of the sound; and difficulties in synchronizing and matching the screen and surround sound. These problems have been apparent to cinema sound designers since the beginning of the use of perforated screens, yet no has recognized the solution presented by the VINCENT sound invention. In particular, all the precision and the quality implemented in the sound tracks are impoverished after passing through the screen. Further, when one makes up the final movie, one has to check it in different theater room configurations,

each of them altering the final sound experience being delivered.

15. The VINCENT sound invention enables Fotokem to achieve a better image and sound richness, to win lead time for providing the final movie, and to provide a sound which is less tiring to the ears when the Director is working hard to deliver it.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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